
New Species in Mexican and Mesoamerican Rubiaceae

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ABSTRACT. Ten new species of Rubiaceae from southern Mexico and Mesoamerica are described and illustrated: *Bouvardia macdougallii* Lorence, *Hoffmannia ixtilanensis* Lorence, *H. minuticarpa* Dwyer & Lorence, *Machaonia martinezorum* Lorence, *Psychotria breedlovei* Lorence, *P. thornei* Lorence, *Rondeletia breedlovei* Lorence, *R. chiriquiana* Lorence, *R. megalantha* Lorence, and *Sommeria parva* Lorence.

During the course of preparing a treatment of the Rubiaceae for *Flora Mesoamericana*, collections representing a number of undescribed species from southern Mexico and Mesoamerica were encountered. Many of these collections are the result of recent fieldwork in botanically poorly known or under-collected areas in conjunction with the *Flora of Chiapas*, *Flora de Oaxaca*, and *Flora Mesoamericana* projects. Ten new species are described and illustrated herein, and their affinities are discussed. Most of these taxa occur within the region covered by the *Flora Mesoamericana* project, i.e., southern Mexico from the Isthmus of Tehuantepec to the Panama-Colombia border (Anon., 1982). A complete account of the Mesoamerican Rubiaceae will be given in a forthcoming treatment for *Flora Mesoamericana* (Dwyer & Lorence, in prep.).

Bouvardia macdougallii Lorence, sp. nov. TYPE: Mexico. Oaxaca: Cerro Atravesada-Cerro Azul, "Arroyo Rana," shrub-small tree, flowers white, Dec. 1956 (fl, fr), *T. MacDougall s.n.* (holotype, MEXU; photo, PTBG). Figure 1.

Species *Bouvardiae dictyoneurae* Standley affinis, sed stipulis brevioribus 2.5-3.5 mm longis, aristis brevioribus nec filiformibus nec glandulosis, corolla alba brevior 8-10 mm longa, corollae tubo 4-5 mm longo et lobis 4-5 mm longis intus dense villosis differt.

Shrub or small tree, the twigs glabrous, 1.5-2 mm diam., the internodes 3.6-5 cm long. Leaves opposite, glabrous, subsessile; petioles 1-1.5 mm long, 0.7-0.9 mm diam.; lamina ovate, 3-5.8 × 1.4-2.6 cm, slightly discolored, stiffly chartaceous, rugose-reticulate, the base obtuse, rounded or subtruncate, the apex acuminate, the acumen 5-15 mm long, occasionally falcate, the 2° veins 3-5 pairs, pinnate, camptodromous, arcuate, the 3° veins

numerous, oblique, reticulate, the venation raised and visible to 3° on both surfaces, the margin callose; stipules persistent, acutely to obtusely triangular or subtruncate, 2.5-3.5 × 2-3 mm, externally with a row of septate hairs 0.2-0.4 mm long, glabrate, internally glabrous, the apex acuminate, 1-1.5 mm long, the margin entire or with 1-3 pairs of digitate processes 0.3-0.5 mm long. Inflorescence cymose-corymbose, terminal, sessile at the twig apex, 1.5-4.5 × 2-5 cm, glabrous, 9-18-flowered, the 1° branches 3-5, 7-20 mm long, subtended by reduced leaves, the 2° axes and pedicels bracteolate; flowers 4-merous, on pedicels 4-7 × 0.2 mm, the hypanthium subglobose-depressed, glabrous, 1 mm long, 1.2-1.5 mm wide, the calyx cup 0.2-0.3 mm deep, the calyx lobes equal, erect, lanceolate or subulate, 2.5-3 × 0.7-1 mm, glabrous; corolla white, at anthesis funnelform, 8-10 mm long, externally glabrous, internally densely villous on the lobes, the tube with scattered hairs internally, the hairs whitish, septate, to 0.5 mm long, the tube 4-5 mm long, 3-4 mm wide distally, the lobes 4-5 × 1.5-2.5 mm, acute, spreading 45-90°; short-styled flowers with stamens exerted, the anthers linear-ellipsoid, 2 mm long, the filaments 1.5-2 mm long, attached just below apex of tube; style 1.3-1.5 mm long, the two papillose stigmas 1.3-1.5 mm long, the disc 0.3 mm high; long-styled flowers not seen. Submature capsules oblate, 3.5 × 4.5 mm, glabrous, 2/3-3/4 inferior; submature seeds subcircular to ellipsoid, 1-1.5 mm long, the margin winged, 0.3-0.5 mm wide.

Distribution. Known only from the type locality in the Sierra Atravesada of southeastern Oaxaca, Mexico. The isolated Sierra Atravesada is situated north of the town of Niltepec and constitutes the disjunct northwestern part of the Sierra Madre de Chiapas. Arroyo Rana lies between Cerro Azul (2,300 m) and Cerro Atravesada (1,600 m). Geologically the area is composed of limestone and coarse-grained sandstone (MacDougall, 1971) and is home to other endemics such as *Rondeletia atravesadensis* Lorence and *R. macdougallii* Lorence (Lorence, 1991).

Habitat. Montane evergreen cloud and elfin forest, ca. 1,600-2,300 m elevation. Flowering and fruiting in December.

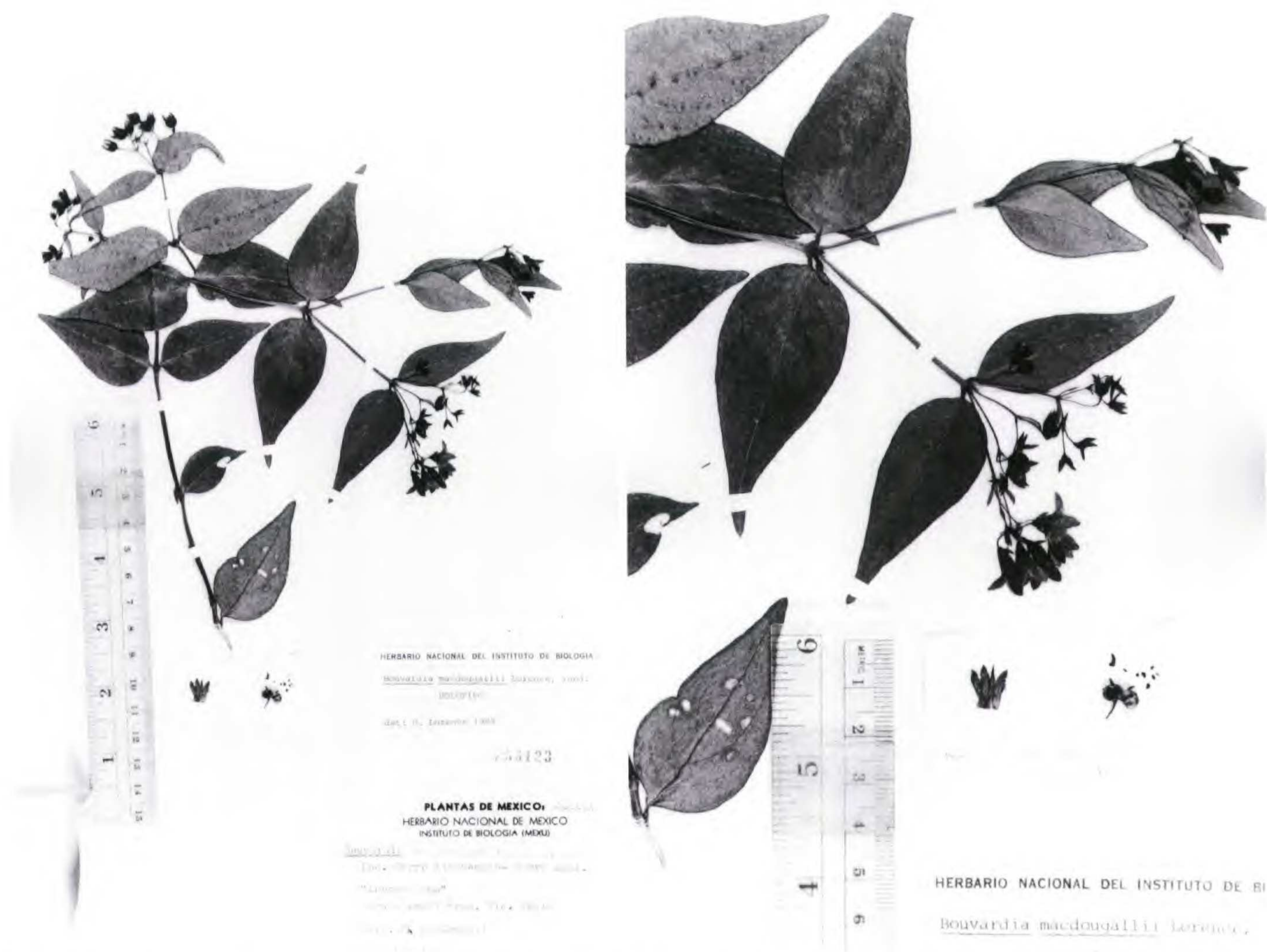


Figure 1. *Bouvardia macdougallii* Lorence. Photos of holotype, T. MacDougall in December 1956 (MEXU), with dissected corolla and fruiting hypanthium.

Bouvardia macdougallii is characterized by opposite leaves, pleiochasial inflorescences, and short corollas, placing it in subgenus *Bouvardiastrum* Schlechtendal (Blackwell, 1968). Although the circular, winged seeds are characteristic of *Bouvardia*, the extremely short corolla tube equalling the lobes in length, internally densely villous corolla lobes, and larger habit set *B. macdougallii* apart from all other members of the genus. Vegetative and capsular morphology place it closest to *B. dictyoneura* from Chiapas and Guatemala, which is distinguished by longer red or orange-red corollas with the tube greatly exceeding the lobes and a villous ring internally near the base of the tube, and stipules with long, filiform processes always terminated by glands.

This new species is named for the late Thomas B. MacDougall, an intrepid naturalist and botanical explorer who spent each winter in the Isthmus of Tehuantepec, Oaxaca (Stix, 1975). While exploring some of the most remote and biologically interesting regions of Oaxaca and Chiapas, "Don Thomas" collected numerous botanical and zoological specimens for various museums and botanical gardens. The two principal sets of MacDougall's botanical

collections, mostly unicates, are deposited at MEXU and NY, with some duplicates at CAS and US.

Hoffmannia ixtlanensis Lorence, sp. nov. TYPE: Mexico. Oaxaca: Distrito de Ixtlán, Sierra de Juárez, ruta 175 Tuxtepec a Oaxaca, ca. 5 km al N de Vista Hermosa, 1,260 m, D. H. Lorence, R. Torres C. & R. Cedillo T. 4013 (holotype, MEXU; isotypes, MO, PTBG). Figure 2a, b.

Species *Hoffmanniae minuticarpae* Dwyer affinis, sed caulibus foliisque sparsim puberulis vel glabris, inflorescentiis floribusque fere glabris, fructibus majoribus 4–5 mm diametro differt.

Shrubs 1–5 m tall, the stems erect, 3–4 cm diam., the new growth sparsely and finely hirtellous, the leafy stems 3–5 mm diam., drying brownish black, glabrous, slightly compressed, the internodes 1–8 cm long. Leaves opposite, petiolate, those of a pair at a node subequal to unequal, one up to 50% larger than the other; petioles 2–5 cm long, 1–1.5 mm diam., canaliculate, glabrous, winged in distal half; lamina obovate, obovate-elliptic or elliptic, 11–25

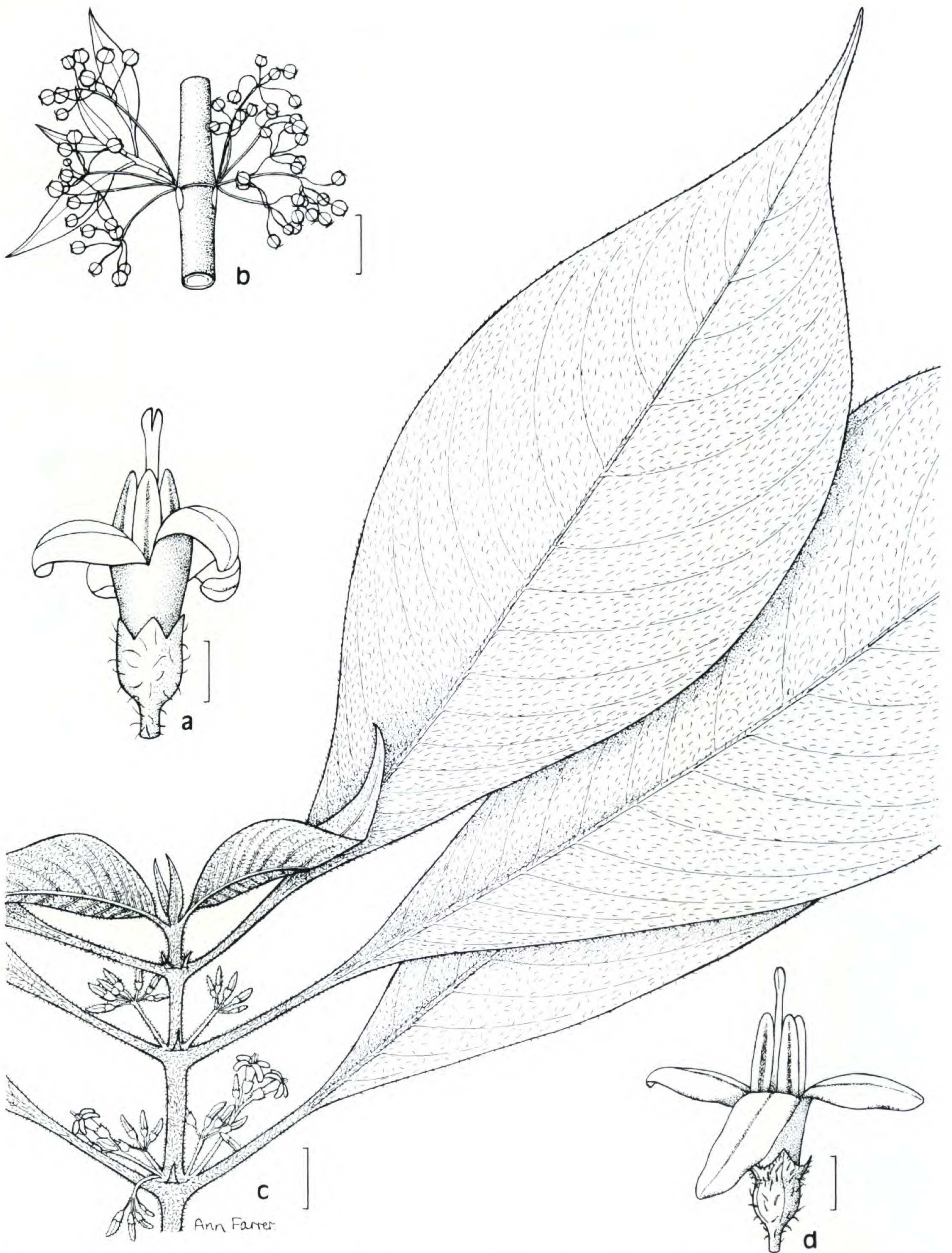


Figure 2. Two species of *Hoffmannia*. a, b. *H. ixtlanensis* Lorence. —a. Detail of flower. —b. Infructescences. c, d. *H. minuticarpa* Dwyer & Lorence. —c. Habit. —d. Detail of flower. a, b, Lorence 4720 (PTBG); c, d, *Sinaca* C. 531 (PTBG). Bars = 1 mm in a, d, and 1 cm in b, c.

× 4–8 cm, often falcate, membranaceous, drying green, discolourous, adaxially hirtellous, abaxially hirtellous, especially along veins and costa, the base narrowly cuneate, attenuate and decurrent, the apex acuminate to caudate, the acumen 1–2 cm long, the 2° veins 11–15 pairs, arcuate, acrodromous, the prominent 3° veins oblique, the venation visible to 5° on both surfaces; stipules triangular, acute from a broad base, 1.5–3 × 2–4 mm, deciduous, externally glabrous or sparsely hirtellous, the inner surface and margins with numerous short brown colleters. Inflorescences axillary and on leafless nodes, solitary or usually in groups of 2–6, shorter than petioles, 1–1.5 cm long, monochasial-cymose, unbranched, often umbelliform, 6–12-flowered, glabrous, the peduncle 5–10 × 0.3–0.5 mm; flowers on pedicels 1–2 × 0.2–0.3 mm, these minutely bracteolate basally, the hypanthium turbinate to subglobose, 1–1.2 × 0.8–1 mm, slightly compressed and bisulcate, venose, glabrous, the calyx cup 0.1–0.2 mm deep, the calyx lobes 4, acutely triangular, 0.3–1 × 0.3–0.6 mm, the margins minutely hirtellous-ciliolate; corolla in bud 4–5 mm long, glabrous externally and internally, pale yellow or white when fresh, at anthesis funnellform, the tube 2.5–3 × 1 mm, the lobes 4, narrowly elliptic to narrowly ovate, 3 × 1–1.5 mm, spreading 45°, the stamens affixed 1 mm below apex of tube, the filaments 1 mm long, the anthers exerted, linear-ellipsoid, 3 × 0.5 mm, acute at apex, bilobed at base, the style 3–4 mm long, the entire, papillose stigma 2 mm long. Ripe fruits reddish pink, globose, 4–5 mm diam.; seeds angulate, 0.2–0.3 mm diam., the testa light brown, reticulate.

Distribution. Oaxaca, Mexico, known only from the Sierra Madre de Oaxaca, on the northern slopes of the Sierra de Juárez in the District of Ixtlán and from near Santa María Choapan in the the District of Choapan.

Habitat. Montane cloud forest (bosque mesófilo de montaña) with *Liquidambar*, *Engelhardtia*, *Alfaroa*, *Hedyosmum*, *Brunellia*, and Lauraceae, and disturbed or secondary forest with coffee plantings, 750–1,600 m elevation. This new species is abundant locally as an understory shrub. Flowering in February, April, June, and August and fruiting in February, June, July, August, and October.

Hoffmannia ixtlanensis is most closely allied to *H. minuticarpa* Dwyer & Lorence (described below) from the Sierra de Los Tuxtlas region of southern Veracruz. The latter species differs in its denser and persistent villosulous pubescence of crinkled pale brown hairs on the young stems, leaves, and inflorescence (Fig. 2c, d).

Paratypes. MEXICO. **Oaxaca:** Distrito de Ixtlán, Sierra de Juárez, Ruta 175 Tuxtepec a Oaxaca, 4 km al NE de La Esperanza, 1,500 m, *Lorence & Cedillo T. 4186* (MEXU, MO); 31 km S de Valle Nacional, camino a Oaxaca, *Martínez S. et al. 8730* (MEXU); 5 km al N de Vista Hermosa, 1,175 m, *Torres C. & Cedillo T. 1459* (MEXU, MO), *Cedillo T. & Torres 1595* (MEXU, MO), *Lorence et al. 4720* (MEXU, MO, PTBG); 1.5–2 mi. N of Vista Hermosa, 4,500 ft., *Webster et al. 17469* (DAV); 39 km al S de Valle Nacional, 1,600 m, *Rzedowski 34062* (ENCB, MEXU, MO); 14 mi. above (W) of Valle Nacional, 1,210 m, *Croat 39779* (MO); 14.9 mi. S of bridge at Valle Nacional, 1,400 m, *Croat 48001* (MO); 18.4 mi. S of bridge at Valle Nacional, 1,500 m, *Croat 48076* (MO); 17–19 mi. above bridge at Valle Nacional, 17°37'N, 96°21'W, 1,450 m, *Croat & Hannon 65558* (MO); ruta 175 Tuxtepec a Oaxaca, ca. 7 km al S de San Mateo Yetla, *Cedillo T. et al. 1655* (MEXU, MO, PTBG); Puerto Eligio, km 151 carretera Tuxtepec-Oaxaca, 750 m, *Martínez C. 734* (MEXU), *Torres C. 531* (MEXU, PTBG); Distrito de Choapan (as "Choapan"), Santa María, Montaña Santa María, 1,500 m, *Mexia 9268* (UC).

Hoffmannia minuticarpa Dwyer & Lorence, sp. nov. TYPE: Mexico. Veracruz: Municipio de Soteapan, Cumbres de Bastonal, a 11 km al S de Tebanca, 1,100 m, 26 abr. 1982, *R. Cedillo T., D. Lorence & G. Ibarra M. 1280* (holotype, MEXU; isotype, MO). Figure 2c, d.

Species *Hoffmanniae ixtlanensis* Lorence affinis, sed pubescentia densiore hirtello-villosa ex trichomatibus septatis crispis constanti, fructibus minoribus 2 mm diametro differt.

Shrubs 1.5–5 m tall, the new growth villosulous with pale brown crinkled septate trichomes 0.3–0.5 mm long, the leafy stems 3–3.5 mm diam., brown, villosulous, compressed, the internodes 2–4 cm long. Leaves opposite, petiolate, those of a pair at a node subequal; petioles villosulous, 3–5 cm × 1.4–1.5 mm; lamina elliptic or lanceolate-elliptic, 11.5–25 × 4–8 cm, membranaceous, drying light green, slightly discolourous, both surfaces hirtellous with crinkled hairs, these much denser and white abaxially along the costa and veins, numerous raphides visible, the base narrowly cuneate, attenuate and often decurrent along petiole, the apex acuminate to caudate, the acumen 1–2 cm long, the 2° veins 10–18 pairs, departing straight then arching distally, acrodromous, the 3° veins oblique, the venation prominent and visible to 4° on both surfaces; stipules thick, appressed, triangular, 1.5–2 × 2 mm, the apex acute or acuminate, brown, externally villosulous, eventually deciduous. Inflorescences axillary and on leafless nodes, solitary or in groups of 2–3, shorter than the petioles, 1.5–2 cm long, monochasial, scorpioid or umbelliform, 7–9-flowered, the axes light brown-villosulous, the peduncle 5–12 ×

0.3–0.4 mm; flowers on pedicels 1.5–3 × 0.2–0.3 mm, each with a minute triangular bracteole basally, the hypanthium subglobose, 1.2–1.5 × 1.1–1.3 mm, slightly compressed and bisulcate, hirtellous, the calyx cup 0.2–0.4 mm deep, the calyx lobes 4, narrowly to broadly triangular, 0.3–0.5 × 0.3–0.6 mm, hirtellous, the margins ciliolate; corolla in bud 4 mm long, externally hirtellous on lobes, internally glabrous, greenish yellow when fresh, at anthesis funnelliform, the tube 1.5 mm long, 0.9–1 mm diam., the lobes 4, 3–3.5 × 1–1.3 mm, narrowly ovate-elliptic, recurving, the stamens affixed 0.5 mm below apex of tube, the filaments 0.5 mm long, the anthers exerted, linear-ellipsoid, 2 × 0.5 mm, apically acute, basally bilobed; style 5–5.5 mm long, the papillose stigma 0.5–0.7 mm long. Fruits globose, 2 mm diam. (unripe), seeds not seen.

Distribution. Known only from the Sierra de Los Tuxtlas region of southeastern Veracruz, an isolated volcanic mountain range of Pleistocene origin.

Habitat. Lowland and lower montane tropical rainforest (selva alta perennifolia), 600–1,200 m elevation. Flowering and young fruit in April, fruiting in July.

Hoffmannia minuticarpa is recognized by its large membranaceous leaves with white appressed hairs, villosulous new growth with pale brown crinkled septate hairs, sparsely villosulous corolla lobes, and small globose fruits. It is most closely allied to *H. ixtlanensis*, which differs by its much sparser and finer pubescence on the new growth (soon glabrescent), and nearly glabrous inflorescence and flowers (Fig. 2a, b). John D. Dwyer, coauthor of this species, is currently revising *Hoffmannia*.

Paratypes. MEXICO. **Veracruz:** Municipio de San Andrés Tuxtlas, Estación de Biología Tropical Los Tuxtlas, 18°34'–36'N, 95°04'–09'W, 600 m, lote 71, *Sinaca C. et al.* 531 (MEXU, PTBG), *Ibarra M.* 2983 (MEXU), *Ibarra M.* 3119 (MEXU); Mpio. de Catemaco, en Tebanca, rumbo a las cumbres de Santa Marta, *Soto E. s.n.* (MEXU, MO).

Machaonia martinezorum Lorence, sp. nov.

TYPE: Mexico. Chiapas: Municipio de Ocosingo, a 50 km al S de boca Lacantum, 130 m, 24 June 1986, *E. Martínez S.* 19016 (holotype, PTBG; isotypes, MEXU, PTBG). Figure 3.

Species *Machaoniae martinicensi* (DC.) Standley affinis, sed habitu saepe scandenti, foliis hirtellis nervis secundariis paucioribus (paribus 4–5) munitis, lobis calycinis 4, tubo corollino 2.5–3 mm longo intus sparse villosulo, et fructu plerumque glabro incrassationibus suberosis maximam partem tecto differt.

Woody vine or shrub, the stems spiny, the leafy twigs 1.5–2 mm diam., densely hirtellous-villosulous with antrorsely curved septate hairs, the internodes (0.5–)2–7 cm long, the older branches 5–6 mm diam., becoming lenticellate, often armed with slender axillary spines 5–12(–25) mm long. Leaves opposite, those of a pair equal, petiolate; petioles 2–7 × 0.3–0.6 mm, densely hirtellous-villosulous; lamina ovate, 1.3–7.2 × 0.7–3.3 cm, chartaceous, adaxially sparsely hirtellous with curved acicular hairs, abaxially hirtellous, the hairs denser along costa and 2° veins, often barbate in axils, the base acute to obtuse or rounded, the sides often attenuate, the apex acute to shortly acuminate, the acumen 2–8 mm long, the 2° veins 4–5(–6) pairs, arching and evanescent toward margin, the venation visible to 2°–3° adaxially, finely reticulate and visible to 4° abaxially, the margin ciliolate; stipules black, the body obtuse or triangular, 1–1.5 × 1.5–3 mm, prolonged into a slender awn 2–3 mm long, externally hirtellous, the margins with 2–4 black digitate collectors. Inflorescences terminal, also often terminal on short axillary branchlets, cymose-corymbose, rounded, 2.5–5 × 2–7 cm, usually sessile and subtended by a pair of leaves or the peduncle 1.7–4 cm × 0.5–1 mm, hirtellous on opposite sides, the 1° branches 3, (0.4–)1–4 cm long, these branching 3–4 times, the branches subtended by linear or lanceolate bracteoles 2–4 mm long, the axes adaxially hirtellous, the ultimate branches bearing cymes of 2–3 flowers. Flowers 4-merous, distylous, sessile or on slender pedicels 1–2 mm long, the hypanthium turbinate, 0.8–1.2 × 0.6–1 mm, compressed, glabrous or sparsely hirtellous, with 6–8 ribs, the calyx cup 0.2 mm deep, the calyx lobes ovate or triangular, 0.8–1 × 0.5–0.8 mm, the margin ciliolate; corolla white when fresh, funnelliform, the tube 2.5–3 × 1.5–2 mm at apex, externally glabrous, internally sparsely villous, the lobes ovate-elliptic, obtuse, 1–2 × 1–1.5 mm, both surfaces minutely papillose-puberulent; stamens exerted, the filaments attached in throat, 0.5–1.5 mm long, the anthers ellipsoid, 0.6–0.7 mm long; style glabrous, 2–3 mm long, the stigma lobes 2, ellipsoid, 0.5 mm long; disc bilobed, 0.4 mm diam. Fruits obovoid-ellipsoid, 4 × 2 mm, truncate at base and apex, slightly wider distally, strongly compressed, bisulcate, each mericarp with tan corky thickenings developing from the costae and covering most of the surface, leaving 2 dark brown ellipsoid medial grooves.

Distribution. Known from western Chiapas and northern Oaxaca in Mexico, and the Petén region of Guatemala.

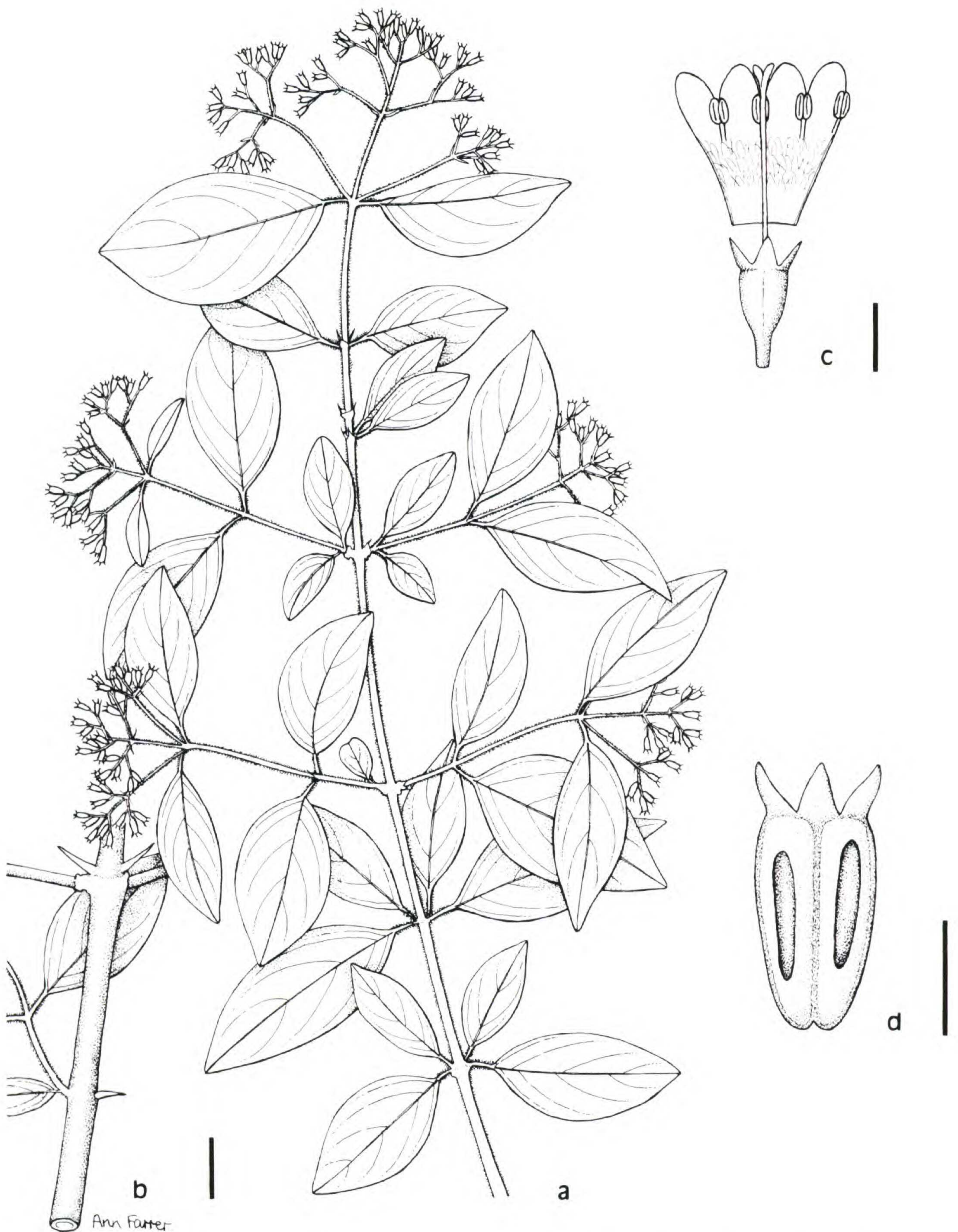


Figure 3. *Machaonia martinezorum* Lorence. —a. Habit. —b. Detail of stem, showing paired spines. —c. Flower, corolla opened. —d. Detail of fruit. a, *Martínez 18995* (PTBG); b–d, *Martínez 19016* (PTBG). Bars = 1 cm in a, b, 1 mm in c, and 2 mm in d.

Habitat. Lowland tropical wet forest subject to flooding, thickets along lagunas, and secondary forest, 14–160 m elevation. Flowering in May and June and fruiting in June.

Machaonia martinezorum is most closely allied to *M. martinicensis*, a species with glabrous leaves (except for the barbate vein axils beneath) having more numerous secondary veins (5–7 pairs), 5 calyx

lobes, a shorter corolla tube 1.5 mm long and densely villous within, and larger turbinate, non-corky fruits to 6 mm long. *Machaonia martinicensis* is known from Jamaica and in Mesoamerica from southern Nicaragua to Colombia. The corky thickenings covering most of the fruit surface in *M. martinensorum* are unusual and may be an adaptation to flotation and water dispersal. Also diagnostic are the relatively small, slender spines. The Martínez-Calderón collection from Oaxaca differs in having a more densely pubescent inflorescence with scattered hairs on the hypanthium but corresponds with material from Chiapas and Guatemala.

I dedicate this new species to two of its collectors having the *apellido* Martínez: Esteban Martínez S. and the late Guadalupe Martínez-Calderón, both of whom have made outstanding botanical collections for the Herbario Nacional de México.

Paratypes. MEXICO. **Oaxaca:** Distrito de Tuxtepec, Plan de Aguila, Chiltepec, 12 May 1967, G. Martínez-C. 1397 (MEXU, MO). **Chiapas:** Municipio de Ocosingo, a 50 km al S de boca Lacantum, 130 m, 24 June 1986, E. Martínez S. 18995 (MEXU, MO, PTBG). GUATEMALA. **Petén:** Cardenas/Puerto Méndez, bordering road, km 166, 20 May 1970, E. Contreras 9849 (MO, TEXLL); El Rosario, the FAO-FYDEP camp at Sayaxche, thickets along small laguna, 160 m, 19 June 1971, Harmon & Fuentes 5784 (MO).

Psychotria breedlovei Lorence, sp. nov. TYPE: Mexico. Chiapas: Municipio La Trinitaria, a 1 km al E de Tziscaco o a 11 km al E de la entrada al Parque Nacional Lagos de Montebello, 16°05'N, 91°39'W, 1,330 m, 9 ago. 1985, T. Chehaibar 170 (holotype, PTBG; isotypes, MEXU, UAMIZ). Figure 4.

Species *Psychotriae sousae* Lorence & Dwyer affinis, sed pubescentia papilloso-puberula, stipulis majoribus 3–4 mm longis, 3–4 mm latis, inflorescentia 24–26-flora, cupula calycina brevior 0.5–0.7 mm longa, fructibus minoribus 6–8 mm diametro differt.

Shrub or small tree (1–)4–6 m tall, the leafy twigs cylindrical or slightly compressed, 2–3 mm diam., minutely and persistently papillose-puberulent, the internodes 1.5–7 cm long. Leaves of a pair at a node subequal, one slightly larger than the other; petioles of a pair subequal or unequal, one up to twice as long as the other, (5–)7–23 × 1 mm, minutely papillose-puberulent; lamina elliptic to narrowly elliptic, (6–)8–16 × 2–6.5 cm, chartaceous, drying grayish or brownish green, discolorous, adaxially glabrous, abaxially glabrous except minutely papillose-puberulent or hirtellous along costa and 2° veins, the base cuneate, the apex acuminate, the acumen 1–1.5 cm long, often falcate, the 2° veins 5–7 pairs, weakly festooned brochidodromous, the

intersecondary veins 1–3, prominent abaxially, perpendicular to costa, the venation prominent and visible to 4° on both surfaces, the margins slightly callose; stipules persistent, broadly triangular or rounded, 3–4 × 3–5 mm, the apex often shallowly bilobed, the basal 1–2 mm united into a short cylinder, becoming thickened and accrescent with age, externally glabrous, internally densely white sericeous, the hairs mixed with pale brown digitate collectors 0.5–1 mm long. Inflorescence terminal, cymose-corymbiform, 24–26-flowered, 3 × 2 cm in flower (including the corollas), 5–5.5 × 4–5 cm in fruit, pedunculate, the peduncle 0.6–0.7 cm long in flower, 2–3 cm long in fruit, the axes minutely papillose-puberulent, the 1° branches in a whorl of 3, 4–5 mm long in flower, 17–20 mm long in fruit, the main axis 1 cm long, the 1° branches unbranched or branching once, ending in umbelliform 2–6-flowered cymules subtended by triangular bracteoles 1–2 mm long; flowers subsessile, the pedicels 0.3 mm long, subtended by 1–2 triangular ciliolate bracteoles 0.2–0.3 mm long, the hypanthium broadly cylindrical, 1–1.2 × 1.2–1.5 mm, minutely papillose-puberulent, the calyx cup obconical, 0.5–0.7 mm deep, the (4–)5 lobes triangular, usually acuminate, 0.3–0.5 mm long, the margin minutely ciliate; corolla salverform, white when fresh, externally minutely papillose-puberulent, the tube 15–16 × 1 mm medially, internally with a brown villous ring 3–4 mm long medially, the lobes (4–)5, recurved, clawed adaxially, narrowly lanceolate, 4–5 × 1 mm, the stamens (4–)5, in short-styled flowers attached 1–2 mm below apex of tube, the filaments 1.5–2 mm long, the anthers linear-ellipsoid, 3 mm long, bilobed basally, exerted for 2 mm; style glabrous, included in short-styled flowers, 12–14 mm long, the 2 linear-ellipsoid stigmas 2–3 mm long, the disc conical, 0.7 mm long; long-styled flowers not seen. Fruits spheroidal, 6–8 mm diam., glabrous, ripening blackish, the apex with low, persistent calyx and nipplelike disc, the pyrenes with 3 low, dorsal ridges.

Distribution. Known only from the eastern highlands of Chiapas, Mexico, in the vicinity of La Trinitaria and the Parque Nacional Lagos de Montebello, near the border with Guatemala.

Habitat. Montane cloud forest with *Pinus*, *Quercus*, and *Liquidambar* at 1,300–1,400 m elevation. Flowering in August and fruiting in January, April, and June.

Psychotria breedlovei belongs to subgenus *Heteropsychotria* Steyermark. This new species is related to the group of Mexican and Central American taxa with long, white salverform corollas including *P. faxlucens* Lorence & Dwyer, *P. megalantha*

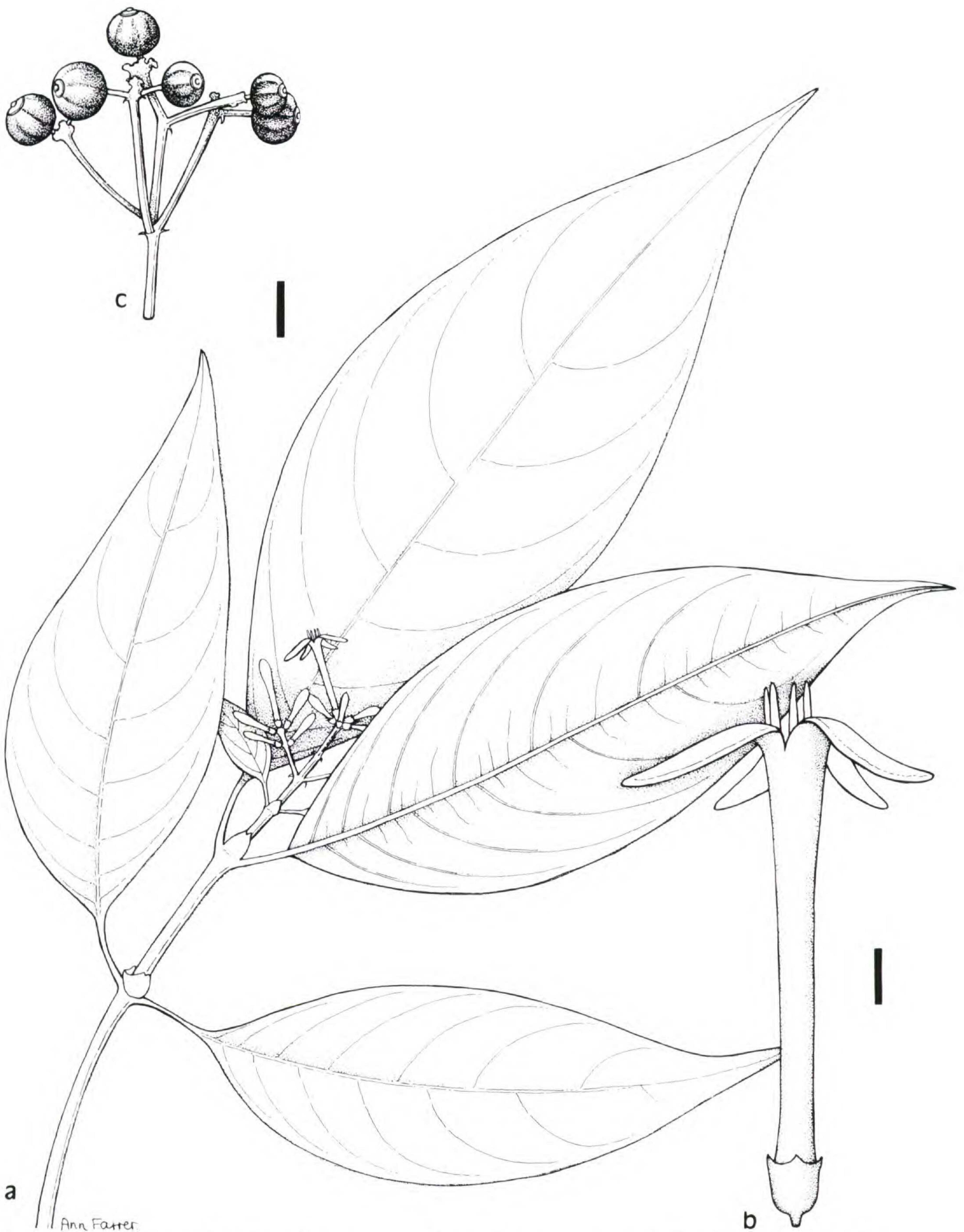


Figure 4. *Psychotria breedlovei* Lorence. —a. Habit, flowering twig. —b. Detail of short-styled flower. —c. Infructescence with fruits. a, b, *Chehaibar 170* (PTBG); c, *Cabrera 2948* (PTBG). Bars = 1 cm in a, c, and 2 mm in b.

Lorence, and *P. sousae* Lorence & Dwyer (Lorence & Dwyer, 1987). *Psychotria breedlovei* is most closely allied to *P. sousae* from Mexico, a completely glabrous species with smaller and thinner stipules,

a 7–10-flowered inflorescence, longer and deeper, subtire calycine cups 1.5–2 mm long, and larger ellipsoid fruits 9–10 mm long. *Psychotria breedlovei* also shows affinity to *P. umbelliformis* Dwyer

& Hayden from Panama, a species differing by its abaxially densely villosulous leaves with 6–10 pairs of secondary veins, puberulent inflorescence with a longer peduncle 3–4 cm long, puberulent flowers with a longer calyx cup 2.5 mm long, and larger oblong fruits to 1.8 cm long. This species is named for Dennis E. Breedlove in recognition of his contributions to the *Flora of Chiapas* project.

Paratypes. MEXICO. **Chiapas:** Municipio of La Trinitaria, Lagos de Montebello National Park, near Lago Montebello, 1,370 m, *Breedlove & Almeda 57476* (CAS, MEXU); a 5 km al W de Lago Tzisco, Parque Nacional Lagos de Montebello, *Cabrera et al. 2948* (MEXU, PTBG); a 1 km al E de Tzisco o a 11 km al E de la entrada al Parque Nacional Lagos de Montebello, 1,330 m, *Chehaibar 170* (MEXU, PTBG, UAMIZ); E of Lagos de Montebello, 1.6 km beyond Ojo de Agua at ca. km 16, 1,330 m, *Croat 46694* (MO); Colonia Cuahutemoc Trinitaria, km 18, *Shilom Ton 8189* (MEXU, MO).

Psychotria thornei Lorence, sp. nov. TYPE: Mexico. Chiapas: Selva Negra, ca. 15 km N of Pueblo Nuevo Solistahuacán, canyon with montane rainforest of Selva Negra on slopes, elev. 5,700 ft., 24 June 1970, *R. Thorne & E. Lathrop 40389b* (holotype, CAS; photo PTBG). Figure 5.

Species *Psychotriae ostreophorae* (Wernham) C. M. Taylor affinis sed petiolis longioribus 3–11 mm longis, lamina basi acuta leviter attenuata, inflorescentia minore angustiore, pedunculo longiore 20–40 mm longo, capitulo 7–15 mm diametro, bracteis minoribus brunneo-viridibus et paribus externis basin versus connatis differt.

Shrubs to 3 m tall, the twigs slender, yellowish green, 1–1.8 mm diam., longitudinally wrinkled, sparsely strigillose when young, glabrescent, the internodes 0.8–3.5 cm long. Leaves opposite, shortly petiolate; petioles 2–11 × 0.4–0.6 mm, adaxially flattened, sparsely strigillose when young; lamina ovate-elliptic to elliptic, 3.5–8.5 × 1.3–3.5 cm, stiffly chartaceous, discolorous, drying grayish green, adaxially glabrous, dull, with numerous raphides visible, abaxially paler, glabrous except for spreading hairs basally along the costa, the base acute, slightly attenuate, the apex acuminate, the acumen 5–10 mm long, the 2° veins 5–7 pairs, strongly arcuate, camptodromous, the venation visible to 3° adaxially, abaxially prominent and stramineous, visible to 4°, the margin thin, slightly revolute; stipules persistent, interpetiolar, the sheath 1 mm long, the margin truncate, with 2 lateral subulate awns 2–3 × 0.4–0.5 mm, externally glabrous or sparsely strigillose, internally villosulous. Inflorescence terminal, solitary, the peduncle 20–40 × 1–1.5 mm, thicker distally, glabrous, the head subglobose, 7–8 × 7–15 mm, the bracts in 2(–3) pairs, dull greenish

brown, glabrous, coriaceous, the bracts of the outer pair 8–20 × 5–10 mm, broadly ovate, connate basally, apically acuminate, the costa prominent dorsally, the margins ciliolate, the bracts of the inner pair(s) somewhat smaller; flowers 5–7 per head, distylous, the hypanthium obconical, glabrous, 1 mm long, the calyx cup cylindrical, 4–5 mm long, splitting halfway down one side, glabrous internally and externally, the calyx lobes usually 5, irregular, deltoid-ligulate or deltoid-ovate, 1.5–2.5 mm long, the margin fimbriate-laciniate; corolla waxy-white when fresh, salverform, the tube 16–17 × 1 mm medially, glabrous internally and externally, the lobes 5, ligulate-lanceolate, 9–10 × 1–1.5 mm, the apex hirtellous, clawed, short-styled flowers with anthers partly exerted, the anthers ellipsoid, 1.5 × 0.5 mm, the filaments 1.5–2 mm long; style 9 mm long, the 2 filiform stigma lobes 3 mm long, papillose, the disc cylindrical, 1 mm long; long-styled flowers not seen. Fruits 1–2 per head, ellipsoid, 7–8 × 4–5 mm, slightly bisulcate, smooth, drying greenish brown, crowned by the persistent calyx 2–3 mm long; pyrenes 7–8 × 4–4.5 mm, with 4 low dorsal ribs and a shallow ventral invagination.

Distribution. Mexico, Chiapas, known only from the vicinity of Jitotol, Pueblo Nuevo Solistahuacán, and Rayón.

Habitat. Montane mesophytic and cloud forest at 1,600–1,770 m elevation with *Pinus*, *Quercus*, *Liquidambar*, *Nyssa*, and *Brunellia*. Flowering in June and fruiting in September.

Cephaëlis has traditionally been recognized as a generic unit in a number of floristic treatments (Dwyer, 1980; Standley & Williams, 1975) and revisions (Molina R., 1953) for Central America and the Antilles. However, Steyermark (1972) gave a number of compelling reasons, discussed in detail by Taylor et al. (1991), for reducing *Cephaëlis* to synonymy under *Psychotria* subg. *Heteropsychotria*. *Cephaëlis* will be included under *Psychotria* for the *Flora Mesoamericana Rubiaceae* treatment (Dwyer & Lorence, in prep.), and this new taxon is described in *Psychotria* subg. *Heteropsychotria*. I am pleased to name the species for Robert Thorne.

Among the Mexican and Central American species of *Psychotria*, *P. thornei* is most closely allied to *Cephaëlis chiapensis* (Standley) Standley (= *Psychotria ostreophora* (Wernham) C. M. Taylor, fide Taylor & Pool (in press), also known as *P. lucentifolia* (Blake) Steyermark), to which it keys out in the treatments of Molina R. (1953) and Standley & Williams (1975). *Psychotria ostreophora* is easily distinguished by its sessile, basally obtuse or rounded, adaxially lustrous leaves with fewer raph-



Figure 5. *Psychotria thornei* Lorence. —a. Habit. —b. Fruit. —c. Seed, ventral view. —d. Seed, side view. —e. Seed, dorsal view. —f. Flower. a, f, *Thorne & Lathrop 40389B* (CAS); b–e, *Thorne & Lathrop 41688* (CAS). Bars = 1 cm in a, b, 7 mm in c–e, 2 cm in f.

ides visible, longer and more slender stipule awns (3–)5–12 mm long attached outside the sheath, shorter, more slender floral peduncles 1–2 cm long, and larger heads with broadly ovate bracts that are free to their bases.

Paratypes. MEXICO. **Chiapas:** Municipio of Rayón, 9 mi. NW of Pueblo Nuevo Solistahuacán, along road between Rincón Chamula and Rayón, Jitotol Ridge, 5,800 ft., Sep. 1971, *Thorne & Lathrop 41688* (CAS); Solistahuacán area, Selva Negra (mountains above the Linda Vista Biological Station near Pueblo Nuevo), 5,700 ft., *Clarke 700624-117* (CAS); Municipio of Jitotol, 5 km SE of Jitotol along road to Bochil, 1,600 m, 10 Sep. 1981, *D. Breedlove 52671* (CAS, MEXU).

Rondeletia breedlovei Lorence, sp. nov. TYPE: Mexico. Chiapas: Municipio of Tenejapa, paraje of Mahben Chauk, on slopes along the Tana Te' River near Sahal K'esh, elevation 2,900 ft. (884 m), 27 Nov. 1964, *D. E. Breedlove 7682* (holotype, F no. 1617735; isotype, CAS). Figure 6.

Species *Rondeletiae subscandenti* Lundell affinis, sed pubescentia flavida hirtella ex trichomatibus 0.4–0.6 mm longis constanti, foliis hirtellis lamina ovato-elliptica 4.5–10.5 × 2–4.7 cm, petiolo brevior 3–4 mm longo, axibus inflorescentiae dense hirtellis, corolla rosea extus hirtella differt.

Scandent shrub (label says “perennial vine”) or small tree 3 m tall, the leafy twigs terete, 1–2 mm diam., densely hirtellous when young, the trichomes pale yellow, 0.4–0.6 mm long, the internodes 2–4.5 cm long. Leaves opposite, those of a pair at a node equal, shortly petiolate; petioles 3–4 × 1 mm, densely hirtellous; lamina ovate to ovate-elliptic, 4.5–10.5 × 2–4.7 cm, chartaceous, drying brown, adaxially shiny, sparsely hirsutulous, abaxially hirtellous, densely so along the costa and veins, the base shallowly cordate to rounded, the apex acuminate, the acumen to 1 cm long, the 2° veins 6–8 pairs, festooned brochidodromous, the venation usually whitish adaxially, very prominent and visible to 5° on both surfaces, the margins ciliate, slightly revolute; stipules erect, dark brown, 5–6.5 × 1–1.5 mm, linear-subulate, strigillose. Inflorescences terminal or axillary in distal 1–2 leaf pairs, 12–40-flowered, corymbiform-cymose, 5.5–7 × 4–6 cm (including corollas), the peduncle 2.7–3.5 cm long, or sessile and tripartite, the 1° branches 3, 2–2.5 cm long, the 2° (ultimate) branches bearing cymules of 3–5 flowers, subtended by linear-subulate bracteoles 1.5–2.5 mm long, the axes densely hirtellous with pale spreading trichomes; flowers distylous, on slender hirtellous pedicels 1–2 mm long, the hypanthium subglobose, compressed, 1–1.3 × 1–1.3 mm, densely hirtellous, the calyx cup 0.2 mm deep, the

calyx lobes 4 (occasionally 5 or 6), unequal and intergrading in size, linear-subulate to narrowly oblanceolate, 1–2.8 × 0.2–0.5 mm, hirtellous, each sinus with a small brown colleter; corolla salverform, pink when fresh, the tube 15–17 × 0.7–0.8 mm medially, externally hirtellous-villosulous with spreading white trichomes 0.4–0.5 mm long, internally with scattered hairs medially, the lobes 5, spreading, obovate-subcircular, 2.5–3.5 × 2–2.5 mm, externally hirtellous-villosulous basally, internally papillose-puberulent basally, the throat with a ring of pale yellow trichomes, the stamens sessile, the anthers linear-ellipsoid, 1.4–1.5 mm long, in short-styled flowers attached 1 mm below apex of tube, the tips visible; style glabrous, in short-styled flowers 10 mm long, the stigmas linear, 2 mm long, the disc annular, glabrous; long-styled flowers not seen. Fruits globose, 4–5 mm diam., hirtellous; seeds not seen.

Distribution and habitat. Known only from the Municipio of Tenejapa in central Chiapas at 800–900 m elevation, presumably in lower montane wet or rainforest. Flowering in November and fruiting in December.

Rondeletia breedlovei is distinguished by its sometimes scandent habit, shortly petiolate ovate or ovate-elliptic leaves with shallowly cordate to rounded bases, prominent venation drying white above, and densely hirtellous-villosulous pubescence on the stems, leaves, and inflorescence. It is closely related to *R. subscandens* Lundell, another scandent species from Guatemala that differs in being nearly glabrous and having much larger and diffusely branched inflorescences to 13 cm long, minute calyx lobes 0.3 mm long, and externally glabrous red corollas. Both species are characterized by their 5-merous corollas that are yellow-barbate around the throat.

Paratype. MEXICO. **Chiapas:** Municipio de Tenejapa, Río Cruz Pilal, 800 m, 20 dic. 1982, *A. Méndez Ton (A. Shilom Ton) 5295* (MEXU).

Rondeletia chiriquiana Lorence, sp. nov. TYPE: Panama. Chiriquí: Fortuna Dam area, along shores of Río Chiriquí where it enters reservoir, 1,000 m, 8°45'N, 82°13'W, 2 Aug. 1984, *H. W. Churchill 5924* (holotype, MO no. 3595277). Figure 7.

Species *Rondeletiae monteverdensi* Lorence affinis, sed bracteis minoribus, 1.5–3.5 × 0.3–0.6 mm, lobis calycinis minoribus, 2–5 × 0.3–1.5 mm, corolla extus glabrata vel strigoso-sericea differt.

Shrub or small tree to 3.5 m tall, the twigs trigonous to cylindrical, 1.5–3 mm diam., ascending



Figure 6. *Rondeletia breedlovei* Lorence. —a. Habit. —b. Corolla, short-styled flower. —c. Corolla opened. —d. Hypanthium and calyx, split longitudinally to show locules and numerous ovules (*Breedlove 7682, F*). Bars = 1 cm in a–c, 4 mm in d.



Figure 7. *Rondeletia chiriquiana* Lorence. —a. Habit, flowering twig. —b. Habit, fruiting twig. —c. Corolla opened. —d. Gynoecium with calyx lobes and style. —e. Fruit. a, Churchill 5924 (MO); b, e, Correa et al. 2698 (F); c, d, Hammel 2333 (MO). Bars = 1 cm in a, b, 17 mm in c, 16 mm in d, 4 mm in e.

sericeous or strigillose, especially when young, the older stems glabrate, the trichomes white or pale brown, thin, straight or curved, 0.2–0.6 mm long, the internodes 1–5 cm long. Leaves in whorls of 3, those at a node subequal to unequal, one up to 50% larger than the others, petiolate; petioles 4–10 mm long, 0.6–1 mm diam., narrowly winged, strigose-strigillose or glabrate; lamina elliptic, narrowly elliptic, or narrowly oblanceolate, 3–9 × 1–2.8 cm, stiffly chartaceous, drying discolorous, when young both surfaces sparsely sericeous with very thin, fragile white hairs to 1 mm long, adaxially often glabrate, abaxially with hairs persisting along costa and veins, the base acute or narrowly cuneate, often attenuate, the apex acute, the tip abruptly long acuminate, 0.8–2 cm long, the 2° veins 4–6 pairs, arcuate, camptodromous, the venation adaxially obscure and visible to 2° or 3°, abaxially dark and visible to 3° or 4°, the margin slightly revolute; stipules narrowly triangular, acuminate, erect, rigid, 2.5–4 × 1.5–2 mm, united into a short sheath 0.3–0.4 mm long, externally sparsely strigillose, internally densely white-sericeous, the margins fringed with black colletes. Inflorescence terminal, corymbiform-cymose, 5–8 × 3–4 cm (including the corollas), ca. 20–40-flowered, the peduncle trigonous, 1.5–3 cm × 1–1.5 mm, strigillose-sericeous, the axes strigillose-sericeous, the 1° branches in 2–3 whorls of 3 separated by short internodes 5–25 mm long, each 1° branch 5–12 mm long, subtended by a leaflike bract 13–35 × 3–11 mm, terminated by 2–5-flowered dichasia, the ultimate axes and flowers subtended by linear bracteoles 1.5–3.5 × 0.3–0.6 mm; flowers 4-merous, distylous, on strigillose pedicels 0.5–4 mm long, the hypanthium turbinate-cylindrical, 1.3–1.5 × 0.8–1 mm, sparsely or densely strigose-sericeous, the calyx cup 0.4–0.6 mm deep, the calyx lobes erect-spreading, sparsely or densely strigose, foliaceous, venose, unequal, the 3 smaller lobes linear, 2–3 × 0.3–0.5 mm, the large lobe narrowly elliptic or oblanceolate, 3.5–5 × 1–1.5 mm, each sinus usually with a small, dark brown globose colleter; corolla salverform at anthesis, yellow-green, white or pink when fresh, the tube 13–14 mm long, 1–1.3 mm wide distally, externally glabrate or strigose-sericeous, internally hirtellous in basal 1/3, the lobes spreading, subcircular, 2–2.5 × 2–2.5 mm, externally strigose toward base, internally glabrous, stamens sessile, anthers ellipsoid, 3 mm long, included in long-styled flowers, the tips exerted in short-styled flowers; style glabrous, 14 mm long in long-styled flowers, 5 mm long in short-styled flowers, the stigma lobes 0.8–1 mm long; disc 0.2 mm high. Capsules broadly ellipsoid or subglobose, 3.5–5 × 3.5–4 mm, 8-ribbed, glabrate or with scattered

hairs, the calyx lobes persistent, spreading, dehiscence loculicidal then septicidal; seeds 0.5–0.6 mm long, irregularly angulate-cristate, testa brown, reticulate.

Distribution. Known only from the La Fortuna Dam area in the Chiriquí province of Panama.

Habitat. Lowland and lower montane rainforest from ca. 1,000 to 1,200 m elevation. Two of the collections were made from plants growing along a river or stream. Flowers were collected in March, August, and September and fruits in September.

Rondeletia chiriquiana is closely allied to *R. monteverdensis* Lorence, which differs in being glabrous or soon glabrescent throughout and by its larger floral bracteoles 4–5 mm long and larger calyx lobes, the 1–2 larger lobes oblanceolate, 8–11 mm long, the 2–3 smaller lobes linear-ligulate, (3–)5–7 mm long (Lorence, 1991). In spite of their similarity, these two species differ in a number of discrete morphological characters and are geographically separated. The new species is also related to *R. calycosa* J. D. Smith, which has similar-sized floral bracts and calyx lobes but differs in having consistently opposite leaves. *Rondeletia monteverdensis* is known only from the Cordillera de Guanacaste and Cordillera de Tilarán in northwestern Costa Rica at (1,200–)1,400 to 1,700 m elevation, and *R. calycosa* is known from the central highlands of Costa Rica on the Caribbean escarpment at 1,100–1,700 m elevation.

Paratypes. PANAMA. **Chiriquí:** La Fortuna hydroelectric project, trail along Hornito river drainage back to present end of road, 25 Mar. 1978, *Hammel 2333* (MO); NE del campamento de Fortuna (Hornito sitio de prensa), 8°45'N, 82°15'W, 1,000–1,200 m, 24 Sep. 1976, *Correa A. et al. 2698* (F).

***Rondeletia megalantha* Lorence, sp. nov. TYPE:** Honduras. Cuyamel [Dept. Cortés, 15°38'N, 88°12'W, ca. 100–200 m elevation], 23 Aug. 1924, *M. A. Carleton 653* (holotype, US no. 1208409; isotype, US no. 1208410). Figure 8.

Species pubescentia hirsuta ex trichomatibus 2–3 mm longis constanti, lobis calycinis 9–19 mm longis, 1–3 mm latis, corollae magnae tubo 30–32 mm longo, lobis 10–15 mm longis, 8–12 mm latis a congeneribus bene distincta.

Habit unknown, presumably a shrub or small tree, the leafy twigs 2–3 mm diam., when young hirsute, later glabrescent, the trichomes 2–3 mm long, pale brown to whitish, simple, septate, often twisted, the internodes 1.5–6 cm long. Leaves opposite, those of a pair at a node subequal or somewhat unequal,



Figure 8. *Rondeletia megalantha* Lorence (*Carleton 653* (based on holotype, US, and isotype, US)). Bar = 1 cm.

petiolate; petioles (0.6–)1–3.3 cm long, 0.8–1.2 mm diam., hirsute; lamina elliptic or broadly elliptic, 8–14.5 × 3.2–9 cm, chartaceous, drying dark brown adaxially, paler greenish brown abaxially, adaxially hirsute with scattered pale brown to whitish, often twisted septate hairs 2–3 mm long, abaxially hirsute, the hairs dense and spreading along costa and veins, the base acute to obtuse, the apex abruptly acuminate, the acumen 8–10 mm long, the 2° veins 9–12 pairs, slightly arching, weakly brochidodromous, the venation visible to 3°(–4°) on both surfaces, the margin ciliate; stipules persistent, erect, ovate, 14–17 × 10–11 mm, thin, brown, foliaceous, externally hirsute dorsally and on margins, internally villous basally with a densely white-villous ring at base. Inflorescence apparently terminal, becoming pseudo-axillary, cymose-corymbiform, 7–9-flowered, densely pale brown hirsute, the peduncle 2–5 cm × 0.8–1 mm, hirsute, the 1° branches 2, 6–10 mm long, each bearing 3–4 flowers and subtended by a linear-lanceolate or ovate-lanceolate, 3(–5)-lobed bract 8–10 × 3–4 mm, with a solitary flower in axil of the 1° branches; flowers 4-merous, on pedicels 2–5 × 0.6 mm, each subtended by a lanceolate, entire or 2–3-lobed bract 8–12 × 1–2

mm, the hypanthium 5–7 × 3–4.5 mm, bisulcate, hirsute, the calyx cup 1 mm deep, the lobes foliaceous, venose, unequal, the 3 smaller lobes linear-lanceolate, 9–11 × 1–1.5 mm, the larger lobe elliptic-lanceolate, 16–19 × 2.5–3 mm; corolla salverform at anthesis, white, the tube 30–32 mm long, 1.5–1.8 mm wide distally, externally hirsute, the lobes spreading, obovate, 10–15 × 8–12 mm, externally hirsute to hirsutulous basally and along one side, internally papillose-puberulent, more densely so basally; stamens and style included (material not adequate for dissection). Capsules ovoid, compressed, bisulcate, 8–9 × 6–7 mm, old capsules with dehiscence septicidal and loculicidal, the pericarp disintegrating and leaving a loose basket of 6–8 vascular bundles around endocarp; seeds not seen.

Distribution and habitat. Known only from the type collection made near the Caribbean coast just east of the Guatemalan border, presumably in lowland rainforest. Flowers and old fruit were collected in August.

Rondeletia megalantha is characterized by its exceptionally large corollas, hence the specific epithet. This new species is most closely allied to *R.*

uxpanapensis Lorence & Castillo-Campos from Veracruz, Mexico, also with hirsute pubescence and large white corollas (Lorence & Castillo-Campos, 1988). The latter species differs in having shorter trichomes 0.5–1.5 mm long, smaller stipules 3–6 mm long, smaller floral bracts 3–6 mm long, and smaller corollas with the tube 13–19 mm long and the lobes $5-9 \times 3-6$ mm. *Rondeletia hondurensis* J. D. Smith from Honduras also has large white flowers but differs in having leaves that are whitish pannose-tomentose beneath, stipules fused into an intrapetiolar sheath with 1–3 aristate lobes, and densely appressed-pubescent, 5-merous corollas.

Sommeria parva Lorence, sp. nov. TYPE: Mexico. Chiapas: Municipio de Tila, Pie de Cerro "K'abana," 900 m, 1 July 1982, *Alush Méndez Ton* (*Alush Shilom Ton*) 4367 (holotype, MEXU; isotypes, BM, F, MO, NY, PTBG, US, XAL). Figure 9.

Species insigniter habitu fruticoso 50–100 cm alto, lamina $35-105 \times 8-25$ mm, petiolis 2–10 mm longis, floribus parvis, corollae tubo 3–4 mm longo et lobis 2–3 mm longis a congeneribus bene distincta.

Shrub or treelet 0.5–1 m tall, the branches virgate, the twigs 1.5–2 mm diam., compressed, moderately to densely strigillose-hirtellous, the trichomes pale fulvous, setose, unicellular, the larger ones to 0.7 mm long, mixed with much shorter ones, the internodes 0.4–2.5(–5) cm long. Leaves opposite, petiolate, those of a pair subequal to unequal; petioles $2-10 \times 0.6-1$ mm, moderately to densely strigillose, adaxially flattened or canaliculate, slightly winged distally; lamina oblanceolate to narrowly obovate, $3.5-10.5 \times 0.8-2.5$ cm, chartaceous, slightly discolorous, drying green to brownish green, both surfaces strigillose-setose along the costa and veins, the intervenal areas sparsely hirtellous-setose, the base narrowly cuneate, slightly decurrent, the apex acuminate, the acumen 7–11 mm long, falcate, the 2° veins 7–9 pairs, weakly festooned brochidodromous, the 3° veins numerous, reticulate, the 4° veins parallel and striate within the 3° areoles, the venation visible to 3° adaxially, prominent and visible to 4° abaxially, the margin callose, ciliate, finely and irregularly sinuate-denticulate; stipules caducous, narrowly triangular, $10-13 \times 2.5-3.5$ mm basally, carinate, externally strigillose dorsally, internally glabrous, the margins scarious. Inflorescence axillary, solitary, a 3–9-flowered dichasium or thyrses, $2-4 \times 1.5-2$ cm, the axes densely strigillose-hirtellous, the peduncles $8-30 \times 1$ mm, compressed, the 1° branches bracteolate, the bracteoles lanceolate, 3–10 mm long, carinate, strigillose-hirtellous;

flowers 5(rarely 4)-merous, on pedicels 1–3 mm long, the hypanthium broadly turbinate, $1-1.5 \times 1-1.5$ mm, costate, densely strigillose, the calyx cup 0.5–0.7 mm deep, the calyx lobes unequal or rarely equal, elliptic to oblanceolate, $2-4 \times 1-2$ mm, venose, externally hirtellous-strigillose, internally hirtellous, the apex acute to obtuse; corolla scarcely exceeding the calyx, yellow when fresh, at anthesis shortly tubular, the tube $3-4 \times 1.2-1.8$ mm distally, externally finely strigillose, the basal half glabrous, internally glabrous below the stamens, the throat densely villosulous-barbate, the corolla lobes thick, ovate to elliptic, $2-3 \times 1-1.5$ mm, externally finely hirtellous-papillose, internally densely villosulous-papillose medially to the base, the apex acute; stamens included, the anthers ellipsoid, 1–1.2 mm long, the filaments 1.2–1.4 mm long, villosulous, affixed midway in the tube; style slightly exerted, 4.6–4.8 mm long, densely villosulous in distal half, the 2 villosulous stigmas 1.2–1.4 mm long, the disc low, 1 mm diam. Fruits subglobose, 7–8 mm diam., baccate, glabrate, crowned by the persistent calyx; seeds numerous, light brown, irregularly elliptic or ovoid, angulate, 1.3–1.9 mm long, the testa foveolate.

Distribution. Mexico, known only from north-central Chiapas near the towns of Petalcingo and Tila. Flowering in May and fruiting in October and December.

Habitat. Lower montane and montane evergreen rainforest from about 900 to 1,700 m elevation.

Sommeria is a genus of approximately 13 species occurring in southern Mexico, Central America, and South America to Peru and Brazil. L. O. Williams (1973) reviewed the Central American and Mexican species but failed to provide a key or illustrate the four species he described as new. *Sommeria parva* is easily distinguished from its congeners by the following combination of characters: small habit, small oblanceolate leaves, and small flowers with unequal calyx lobes. *Sommeria fusca* Oersted ex Standley from Oaxaca also has comparatively small leaves, but they are elliptic and much broader than those of *S. parva*. The only other species with strongly unequal calyx lobes is *S. arborescens* Schlechtendal from Oaxaca, Veracruz, Chiapas, and Guatemala, but it has much larger, glabrous or pilose-strigose leaves $7-29 \times 1.8-12$ cm with more numerous secondary veins (9–13 pairs) that are barbate in the axils below.

Paratypes. MEXICO. **Chiapas:** Mun. of Huitiupan (as "Petalcingo"), Ahk'ulbal Nab above Petalcingo (as "Petalcingo"), 1,700 m, *Breedlove* 56138 (MEXU); Mun. de Tila, Pie del Cerro Ak'bana, 800 m, *A. Méndez*



Figure 9. *Sommeria parva* Lorence. —a. Habit. —b. Habit, fruiting twig. —c. Gynoecium with calyx opened to show style. —d. Corolla, opened. —e. Fruit. a, Méndez Ton 4367 (PTBG); b, e, Méndez Ton 4953 (PTBG); c, d, Méndez Ton 6007 (PTBG). Bars = 1 cm in a, b, 1 mm in c-e.

Ton 6007 (*A. Shilom Ton*) (MEXU, MO, PTBG); Mun. de Yajalón, Banco de Grava, 800 m, *A. Méndez Ton* 4953 (*A. Shilom Ton*) (MEXU, MO, PTBG).

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